CLAIMS

What is claimed is:

1. In an optical communication system, an optical transceiver for coupling light from a source optical element to a receiving optical element, the optical transceiver comprising:

a body including a source guide that connects the optical transceiver with the source optical element and a fiber guide that connects the optical transceiver with the receiving optical element; and

a lens formed as a molded part of the body, wherein the lens aberrates light from the source optical element on the receiving optical element to reduce feedback, the lens comprising:

a focusing lens surface that is positioned within a source guide such that far field radiation emitted by the source optical element is directed to the receiving optical element; and

a flat lens surface positioned within the fiber guide, wherein the flat lens surface does not have optical power.

2. An optical transceiver as defined in claim 1, wherein the body further comprises a fiber stop located within the fiber guide, wherein the fiber stop positions the receiving optical element with respect to the flat lens surface.

3. An optical transceiver as defined in claim 1, wherein the lens further comprises a length that determines a magnification of the lens.

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4. An optical transceiver as defined in claim 1, wherein the focusing lens surface comprises a clear aperture.

5. An optical transceiver as defined in claim 1, wherein the focusing lens surface couples high angle rays from the source optical element on the receiving optical element, wherein an image formed by the lens on the receiving optical element is aberrated.

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6. In an optical communication system where optical signals are coupled from one optical element to another optical element, a port for coupling a source optical element with a receiving optical element, the port comprising:

a port body including a source guide and a fiber guide, wherein the source guide is formed to connect with the source optical element and wherein the fiber guide is formed to connect with the receiving optical element; and

a lens formed as an integral part of the port body, wherein the lens receives light generated by the source optical device and focuses the light on the receiving optical device such that the light is aberrated to reduce feedback, wherein the lens comprises:

a focusing lens surface, wherein the focusing lens surface has a curvature that introduces aberrations in the light being coupled with the receiving optical device such that an image on the receiving optical device is defocused; and

a flat lens surface.

7. A port as defined in claim 6, wherein the focusing lens surface has a clear aperture.

8. A port as defined in claim 6, wherein the lens has a length to magnify the light being coupled.

9. A port as defined in claim 6, wherein the focusing lens surface couples high angle rays from the source optical element on the receiving optical element, wherein an image formed by the lens on the receiving optical element is aberrated.

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10. A port as defined in claim 6, wherein a point light source from the source optical element is imaged as a spot on the receiving optical element.

11. A port as defined in claim 6, wherein the port further comprises a fiber stop formed within the fiber guide, wherein the fiber stop positions the receiving optical element near the flat lens surface.

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12. A lens disposed with a molded port for coupling a source optical element with a receiving optical element, the lens comprising:

focusing means for aberrating light from the source optical element such that an image of the source optical element formed on the receiving optical element is defocused to reduce reflections back into the source optical element;

a flat lens surface that does not have optical power, wherein the flat lens surface is positioned near the receiving optical element such that a tilt of the flat lens surface does not affect the coupling of light between the source optical element and the receiving optical element; and

a length that determines a magnification of the lens and a position of the source optical element with respect to the receiving optical element.

13. A lens as defined in claim 12, wherein the focusing means further comprises a focusing lens surface.

14. A lens as defined in claim 13, wherein the lens further comprises a clear aperture defined by a sag table.

15. A lens as defined in claim 13, wherein the tolerance of the sag table is less than 0.1 microns.

16. A lens as defined in claim 13, wherein a point from the source optical element is imaged as a spot on the receiving optical element, wherein the spot has a diameter on the order of 10 microns.

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